# Meeting Minutes

950 West Bannock Street, Suite 350
Boise, Idaho 83702

T: 208.389.7700
F: 208.389.7750

**Prepared for:** Midas Gold Idaho, Inc. (Midas Gold)
**Purpose of Meeting:** ESA Informal Consultation Meeting, Fish **Date:** December 5, 2019
**Meeting Location:** BC Boise **Time:** 9 a.m.
**Agenda Prepared by:** Paul Leonard, Brown and Caldwell

**Represented Organizations**[1]: USFS, USFWS, NOAA, OEMR, IDFG, Shoshone and Nez Perce Tribes, Midas Gold, , Brown and Caldwell, BioAnalysts, OSC, USACE, SRK

**Attendees:**

Clayton Nalder, USFS
Jordan Messner, USFS
Johnna Sandow, NOAA
Ally Turner, USFWS
Erin Kenison, USFWS
Merle Nelson, USFWS
Jeremy Moore, USFWS
Marde Mensinger, OEMR
Wes Keller, NPT
Robyn Armstrong, NPT
Mark Miller, Bioanalysts
Lytle Denny, SBT
Mike Edmondson, OSC
Marve Griffith, USACE
Mike Herrell, SRK
Dan Kline, Midas Gold
Gene Bosley, Midas Gold
Paul Leonard, BC
Aylin Lewallen, BC
Doug Durbin, BC
Megan Tverdy, BC

## Consultation Meeting Goals and Objectives

*To work collaboratively as a group to develop a sound and defensible biological assessment, based on best scientifically and commercially available data, that meets the needs of the U.S. Forest Service, the NOAA Fisheries, the U.S. Fish and Wildlife Service, and United States Army Corps of Engineers to timely complete the formal Endangered Species Act (ESA) Section 7 consultation process for the Stibnite Gold Project.*

1. *Clarify which Endangered Species Act listed, proposed, and candidate species and designated or proposed critical habitats are in an agreed-upon action area (Completed);*
2. *Determine what effect the federal action may have on these species or critical habitats and explore and agree upon the analysis necessary to support the development of the biological assessment;*
3. *Explore ways to modify the action to reduce or remove adverse effects to the species or critical habitats;*
4. *Explore the design or modification of an action to benefit the species and coordinate on their inclusion in the biological assessment; and*
5. *Discuss and seek concurrence on the content and organization of the biological assessment.*

[1] Actual attendees from each organization will be captured in meeting minutes.

## Proposed Agenda

1. **Review Refinements of Draft Salvage and Relocation Plan (60 min) – Objectives 2-4**
   *Intent: To review and discuss relative fish density/abundance by species and life stage within potentially affected stream reaches and recommended sites for fish relocation*
   - Present fish density and number estimates by species, life stage and stream reach
   - Discuss how these estimates will be used during planning and execution of fish salvage efforts
   - Present and discuss recommended sites for fish relocation

Slide 1 - 8 Miller

**Miller**: It's been discussed that Sugar Creek may not be a relocation site.

**Nalder**: You don't want large migratory bull trout in Sugar Creek due to predation issues.

**Miller**: We would run into predation in EFSF downstream too. There is a large pool volume with YPP.

**Nalder**: Passively you'll minimize the number of bull trout. 50-60 migratory bull trout in Sugar Creek may not be wise.

**Miller**: Could there also be a timing issue?

**Nalder**: Timing would come into play

**Leonard**: Aylin is working on YPP estimates, and numbers will be lower than originally thought. A lot fish have stayed resident.

**Miller**: June or July might not be a bad time but later when they are staging and spawning may be an issue.

**Turner**: The best option may be to put them where they have the option to choose more than one stream.

**Nalder**: Maybe you don't have pool habitat, but you have a river option. Sugar Creek has a healthy population of bull trout.

**Nalder**: Sugar Creek may be a good place for juvenile bull trout.

**Keller**: Pit tagging is more handling. But you'll be able to determine where the fish end up.

**Lewallen**: Our numbers show ~75 tagged bull trout in 2018 and ~44 tagged in 2019.

Slide 9 Miller

**Miller**: With Fiddle Creek there is available habitat. But to transfer fish, there is no road system. It's not easily accessible.

**Kline**: I would also guess upstream of Fiddle Creek has a question of viability.

**Nalder**: I'd be concerned about relocation to a small stream and over populating.

**Sandow**: There are also enclosed backpack transportation options for moving the fish.

Slide 10 –11 Miller

Miller referenced the Aquatic Resources Baseline study addendum.

Slide 12 –13 Miller

Leonard pointed out MWH 16 is also a population site but you can't tell from this slide.

Slide 14 –17 Miller

**Kenison**: For any capture event you have x number of fish and can't differentiate species?

**Miller**: If site is on marked cutthroat and you capture bull trout the mark recapture won't work.

**Keller**: When they did sampling were they not able to get bull trout?

**Leonard**: They used three abundance-population estimation methods, and if your site is 90% cutthroat and BT are sparse and you cannot get sufficient "recaps" then you cannot produce a viable population estimate.

**Miller**: The salvage area in Meadow Creek for instance, when you have a lot of bull trout in Cinnabar, how can we use that to estimate Meadow Creek? We can't. This population is resident bull trout.

Question from phone (not sure who this was, they didn't identify themselves)– Will you use density from marked recapture?

**Miller**: We want to extrapolate them appropriately. Some areas are higher gradient habitat. Population estimates show there are only three tributaries in Meadow Creek that will be salvaged.

**Turner**: If we make estimates and we underestimate the "take," and you exceed take, then we are in a re-initiation situation. It would be really clear in this situation where you exceeded take.

**Nalder**: Can you write a take statement (Clarification added: incidental take statement) that says based on estimate this is the number of fish we expect to handle? Can you do it where you don't have a hard fast number?

**Turner**: We can say we will authorize take for x miles, etc., but we need to make sure it's defensible legally.

**Sandow**: I would like to see ranges. I think our legal counsel will be looking for more exact numbers. The BA should be clear on this.

**Leonard**: Yes, that is the plan.

Slide 18 – Miller

Question: Where did the tribes derive their population estimates?

**Keller**: We didn't derive estimates from snorkeling. A marked "re-sight" is essentially a mark recaptured.

Slide 19 –23 Miller

**Leonard**: Our next management level decision is to determine total fish abundance by salvage reach. The second is letting agencies look at data and determine how best to use the data to estimate take.

2. **Review WQ Modeling and Analysis (90 min) – Objectives 2 and 3**
   *Intent: To review results of water quality modeling and related analysis on how water quality will change as a result of the project*

- Present summary results of water quality modeling at key locations
- Describe how the water quality will change as a result of the project
- Present the constituents of concern
- Discuss how WQ modeling and analysis will be used in the effects analysis in the biological assessment

Slide 27 -Durbin

**Sandow**: MG is clear which permits and types of discharges that will need to be described in BA?
Leonard: MG is very aware of that and will cover that more fully in this section. Hopefully the draft IPDES permit will be available when the BA is ready.

Slide 28 – 31 Durbin

**Sandow**: NOAA issued a jeopardy opinion on the arsenic levels so this may not be a reasonable data set.

**Armstrong**: What was the biological opinion that you are referencing?
**Sandow**: EPA approval of the Idaho's proposed water quality standards.

**Keller**: Where is the disturbance that would be impacting water quality in lower EFSFSR above Sugar Creek?
**Leonard**: Up on the hill is a large legacy deposit. Hennessy Creek goes right through that.
**Nalder**: What you're seeing is an increase above Yellow Pine pit which are the legacy dumps.

Slide 32 –33 Durbin

**Keller**: USGS and EPA have water quality data. How does MG/BC data compare to that water quality data?
Durbin: I have a few publications and my understanding is far more data has been collected from Sugar Creek and Cinnabar than on the Stibnite site. For Stibnite, Mercury probably fits within these ranges. There has been a bit of work on fish tissue mercury, but because of the limited amount of organic material, there isn't a lot of methylated form in fish tissue.

Slide 34 – Durbin

Slide 35-40 – Herrell

**Sandow**: For the seasonal adjustment sample, what is the frequency? Is it quarterly or monthly?
**Durbin**: The MG monitoring data includes 3 years of monthly, then 3 years of quarterly sampling.
**Sandow**: Is it MG data, or USGS data?
**Durbin**: It is MGII and outside contractor data.

**Sandow**: Have you looked to see how it compares to USGS data?
**Durbin**: No. In general, for the parameters looked at for arsenic when there are lower flows, there are higher concentrations. Mercury was the opposite as it is generally associated with sediment.

Slide 41-48 Herrell

**Sandow**: For the EFSFSR are those arsenic concentrations representative of baseline?

**Herrell**: Baseline water quality data is used. But this is based on a facility that doesn't exist yet. Baseline inputs are used as well as changes to water quality from the pit.

Slide 49 - 69 Herrell

**Keller**: Further downstream, for the EFSFSR arsenic is the biggest criteria. You're within existing conditions but within the mean. Does it just have to be within existing conditions. How do you measure that levels got better?

**Herrell**: We expect fluctuation around the mean. We are lower than other scenarios that were modeled. It may be difficult to get below the ideal surface water WQ. We might get lower than this by looking at conservatism in the model. We are adding quite a bit of load, we do account for this. Some load will come from legacy facilities that will be removed.

**Sandow**: I couldn't see baseline and predicted. Conceptually, I heard the model can't account for removal of SODA or Hecla heap. But we are seeing improved conditions. How is there an improvement when model can't account for this?

**Herrell**: It does account for removal of sources. Ground water is impacted from those sources. We model the change to ground water as a result of removing those sources. We account for that in Hangar Flats. When we look downstream, we are missing good data on additional loading from diffuse sources.

**Sandow**: The model can account for that upstream of the site but not downstream?

**Herrell**: Yes, we are missing accurate load downstream. The add-on at the end is for sources we can't account for.

**Leonard**: The model can account for upstream historical contributions; its downstream we don't have the data to fully account for sources.

**Bosley**: Is part the issue from the plume coming from SODA?

**Herrell**: Maybe.

**Bosley**: Meadow Creek is a losing or close to gaining-losing so some of that plume comes in down gradient. That area also has other legacy impacts that are diffused. Differentiating that from SODA plume is difficult.

**Sandow**: I don't think it's a complete picture or is accurate to predict future water quality issues compared to the baseline. We will need to see if model can come up with maximums.

**Leonard**: Modeling was done on the means, but we developed seasonal factors to address these inconsistencies

**Herrell**: Seasonal adjustment ranges account for seasonality and there is variability in concentrations on a monthly basis. These were calculated to see the variance of the mean by month. We can translate the monthly variability by each year.

**Kline**: is there an action item due to this conversation?

**Sandow**: I think it's more an idea of what water quality analysis should be in the BA to evaluate the effects.

**Leonard**: We will show the monthly variability around projected means.

**Sandow**: Especially when we are talking about modeling outputs.
**Nalder**: Whenever you make statements that the model is "conservative", we need bullet points to describe why its conservative.
**Durbin**: Keep in mind we still have the other end meaning IPDES permitting and that should add different context.
**Herrell**: The means aren't included on these figures.

**Sandow**: What do you mean by seasonal variability.
**Herrell**: We aren't showing mean predictions.
Note: It was clarified that modeled monthly water quality projections were developed into monthly projections using observed seasonal variability from baseline water quality data and show that way in the water quality modeling reports.

**Miller**: Do you need to see a seasonal behavior for arsenic concentrations.
**Sandow**: It's more dietary concern.

Slide 71 –75 Durbin

**Sandow**: what is the difference between industrial wastewater for outfall 1 and outfall 2? outfall 1 won't collect seepage?
**Durbin**: Outfall 1 already exists. Since 2013 MG has had coverage for exploration activities. The storm water permit requires outfall. Likely a new outfall 001 will be created for storm water.

Slide 76-80 Durbin

**Kenison**: Is there any reason to be concerned about untreated water be left open and untreated in regard to wildlife?
**Durbin**: Storage ponds are designed to take water when you have the most of it. The lowest concentration is when you have a lot of snow melt. There should be low concentrations in storage ponds, and they won't be in forested areas. Some ponds may be put in places that will be mined it the future. Ponds will be where there isn't a lot of wildlife activity.
**Leonard:** BMP's used for wildlife exclusion will be followed; fences and screens that will be used to reduce wildlife contact.

**Sandow**: Will there be collections of seepage water in the TSF? If there is no liner under the DRSFs, will that water be collected? I'd like to know what water will be collected and used during mining that will need treatments.
**Durbin**: IPDES is a surface water permit. DRSF may be clean rock and there are scenarios where we could put that water in a clean pond. If it's seepage it will go to a pond that is part of the system feeding water to the plant.

**Nalder**: What about long term DRSF and TSF?
**Durbin**: Treatment evaluation is still under way. MG understands water treatment is a big consideration. Some treatments work better than others in different stages of the process.

Slide 81-82 Durbin

**Sandow**: For the BA there is the consideration of mixing zones. I'd like to see info in the BA regarding what mixing will be expected.

**Durbin**: Regulations say if you have impairment in a water body, you can't discharge above the criteria in that body. Criterion dictates limits. Two of the 3, maybe 3 of 3 parameters that are impaired, we don't feel like there is a great chance of a mixing zone. Any mixing zone granted will be small. Hundreds of feet to hundreds of yards at the most. Not likely arsenic or Antimony. More likely copper.

**Kline**: We've had a water quality discussion on our radar for some time. We are hoping this eliminates that need. We can go into more detail as needed.

3. **Bull Trout Population Viability Upstream of the TSF (60 min) – Objectives 2 and 3**
   *Intent: To discuss options for managing bull trout in the upper Meadow Creek basin during and after mine operations and post mining*
   - Review data on bull trout and habitat conditions in Meadow Creek now and after the completion and restoration of Meadow Creek over the TSF
   - Discuss potential for self-sustaining population of bull trout in Meadow Creek during and after restoration of Meadow Creek over the TSF
   - Discuss implications for management decisions on bull trout in upper Meadow Creek

Slide 84 -97 Leonard

**Sandow**: I thought flows post-mining weren't going to be affected.

**Leonard**: I need to drill down further to verify. Some of the numbers may change. I need to make sure we are comparing things at the same point.

**Keller**: Why does the temperature drop during mining?

**Leonard**: Temperatures are added in different stream tributaries. If we remove the segments that have warmer temperatures lower in MC, then the average temperature drops' just the colder headwaters remain. Computing is based on all reaches, interim, or post mining.

Slide 98-99 Leonard

**Miller**: This is just for sampling that has occurred. When we get to salvage, if we don't get a hit on bull trout, we won't have to do salvage.

**Nalder**: You would continue salvaging until you ran out of fish and then go a bit further with spot checks. Working with AECOM we determined bull trout won't be viable here.

**Bosley**: Scalability on density estimates when you jump that far in stream size means you'll be off on scaling not necessarily on volume.

**Leonard**: For bull trout to persist they will need larger pools.

Slide 100 – 102 Leonard

**Griffith**: If we just take what we learn today and discount Meadow Creek as viable habitat during operations, what would the expected population density be? What would the effects be with loss of this connectivity and how will that affect the E. fork?

**Leonard**: We would very much like to know the USFWS take on this. Currently the upper EFSFSR upstream of the cascade at the YPP, is resident bull trout population only.

**Griffith**: How long can the remaining population sustain over time?
**Nalder**: If you look at density data for lower Meadow Creek it is going to be warmer, and you don't see BT there. It's a temperature issue.

**Leonard**: Resident bull trout are temperature sensitive, but the large migratory adults are not as sensitive.

**Nalder**: For the PDEIS we are breaking up the temperature analysis and looking at what is optimum of each species. It will be broken down by where the access is.

**Miller**: A lot of the habitat won't be populatable for bull trout. When the fishway goes in we will be reconnecting migratory pathways.

**Turner**: Would the migratory population move through and proceed to cooler temps?

**Leonard**: It does appear so.

**Turner**: The extent of the warm segment would determine some of that, correct?

**Sandow**: Did you find literature about temperature blockages?

**Leonard**: We weren't searching for that but there may be something out there.

**Sandow**: Johnson Creek doesn't have near the migratory population of bull trout that the East Fork has. None of those tagged fish went into Johnson Creek.

**Miller to Keller**: Were the crew on the weir scanning for pit tags?

**Keller**: We don't tag bull trout. I can ask if they are scanning all fish though.

**Nalder**: They were measuring everything.

**Nelson**: In EFSFSR at Park Creek they detected a bull trout that had been tagged in Hells Canyon by Idaho Power.

**Nalder**: The problem from a NEPA standpoint is we have to disclose everything.
**Leonard**: Did you look at seasonal differences or critical periods.

**Nalder**: Not just critical periods.

**Nelson**: Is this regarding salvaging all fish in the footprint of the TSF?

**Miller**: Yes.

**Nelson**: Would you pursue the same salvage for cutthroat?

**Leonard**: We need feedback from agencies. USFS might weigh in since that is a species of concern. We are planning on salvaging all species.

4. **CWA Section 404 Permitting and Compensatory Mitigation Plan and Coordinating Relationship to ESA Section 7 Consultation and Schedule (30 min) – Objective 2**
   *Intent: To discuss regulatory, CMP mitigation plan monitoring and assurances requirements by the USACE and timing relative to Section 7 consultation*
   - Discuss ESA requirements of CWA Section 404, mitigation monitoring, and coordination needs for the biological assessment

Slide 105-107 Griffith

**Sandow**: When will the detailed compensatory mitigation plan be available? We need all components at the same time for the BA. The availability of the information does not appear to be aligning well.

**Griffith**: There may be a need for offsite or other mitigation. Mitigation offsite could occur outside of the site plan. MG is trying to commit and present something to USACE. No alternative has been selected.

**Sandow**: What is the compensation being proposed? When proposed action includes building in mitigation to compensate, it can be accounted for in the jeopardy analysis.

**Kline**: If we have stream improvement or habitat improvement in our project mitigation plan would that be added in a ledger sense? As in added in a positive effect, offsetting some of the negative project impacts.

**Leonard**: The answer is yes, but it's complicated.

**Keller**: Does offsite mitigation have to affect the population?

**Sandow**: For spring summer chinook our preference for mitigation actions would be to stay within the East Fork if possible then use Sesech River as it is also a good viability option.

**Leonard**: Have you any targeted actions for which MG could consider for off-site mitigation; any restoration priorities you see?

**Sandow**: The Recovery Plan talks about a variety of limiting factors.

**Leonard**: The general idea is to try to do the off-site mitigation as close to the project as possible and not go outside the watershed.

Slide 108 Leonard

**Leonard**: When does the USACE complete the LEDPA review and decision?

**Griffith**: After receiving the application.

**Sandow**: When does that occur in the schedule?

**Griffith**: Around the FEIS.

**Griffith**: Fisheries are of great emphasis in the review of impacts and mitigation. Part of the mitigation plan is to address the species. We hope MG plan addresses this and we hope to provide feedback on the BA. Through this group and as MG works through this we can merge the requirements together. Ultimately, we are mitigating for salmonid habitat. If we can synchronize the joint review that would be ideal.

**Leonard**: Typically, in the 404 permit application process, before there is a preferred alternative, there is typically a "conceptual" mitigation plan that is very high-level and not very fully described; then later a more complete and final "compensatory" mitigation plan is finalized. In the case of MGII's conceptual compensatory mitigation plan, it is developed in far greater detail than most conceptual mitigation plans and is very well developed. If you compare f to other large mining project conceptual mitigation plans, you can see for yourselves.

**Sandow**: I need to see more detail on what we are monitoring for and what are we measuring.

**Leonard**: Would you process 404-permit application before the FEIS?

**Griffith**: We process what we get when we get it. It won't necessarily be approved, but it will be processed if received.

**Nalder**: MG is proposing to submit permit app after the public comment period?

**Leonard**: Yes. MG wants to be comfortable there will be no changes and when they have a sufficient compensatory mitigation plan, they will submit the permit application and completed compensatory mitigation plan that is compliance with the 2008 Mitigation Rule.

**Leonard**: The FOMP, FMP and all the other plans all will be finalized in the same timeframe and right around DEIS.

**Griffith**: We prefer that everyone would be reviewing concurrently.

Slide 109

Griffith: USACE is working with USFS and IDL to ensure monies are appropriately allocated. All entities have to require financial assurance.

**Griffith**: USFS is the federal agency. USFS action is anything that might require a permit. We would like to review the BA and will work together as requested.

**Turner**: The earliest we would be looking at the draft BA would be summer?

**Leonard**: Yes, things have changed since we made this schedule.

**Nalder**: The DEIS isn't scheduled to hit the street until January 24th.

**Armstrong**: Will the draft have a selected or preferred alternative?

**Nalder**: The agency has been back and forth.

**Leonard**: The general consensus on whether a preferred alternative should be identified in DEISs that that it is good to let the public know this is the way agency is leaning, etc.

**Nalder**: This may be the first time that the Payette has published a DEIS identifies a preferred alternative. It would be difficult for the agency to identify anything but the MOD PPRO as the preferred alternative. The MOD Pro mitigates some impacts identified in the PRO.

**Kline**: MG hasn't given USACE anything specific for offsite mitigation. The big driver is opportunities because mitigation will require a land protection instrument for perpetuity.

5. **Revisit Water Temperature: 2015 Data (30 min) - Objectives 2 and 3**

   *Intent: Revisit topic of including 2105 data into the characterization of existing stream thermal regime of the upper EFSFSR*

   - Review 2015 water temperature collected during Aquatic Resources baseline studies
   - Discuss inclusion into water temperature regime characterization presented during October ESA IC Fish Meeting
   -

Leonard: From the November Meeting, 2015 was identifies as one of the warmer or warmest year sin recent recollection. We have obtained and illustrated that data here. We will add the 2015 data into the existing conditions characterization.

The group indicated concurrence.

6. **Revisit HF Pit Filling Effects on Flows Downstream of Johnson Creek (30 min) - Objectives 2 and 3**
   *Intent: Revisit topic of downstream effects of HF Pit Filling and address downstream to Johnson Creek*
   - Present summary data of effects of HF Pit filling downstream of Johnson Creek
   - Discuss potential effects to Chinook and steelhead migration upstream to Johnson Creek

Slide 115- 119 Leonard

**Keller**: When you divert flows to fill the pits are they part of MG water rights?
**Leonard**: MG is exploring those options.
**Bosley**: That may not be the case for higher runoff flows.

**Sandow**: Diverting everything above 5 or 10 isn't necessarily set in stone?
**Leonard**: Correct, we are having that conversation.

**Nalder**: USFS has a requirement for all diversions to be screened.
**Miller**: Is that assuming our salvage is 100% effective?
**Nalder**: I need to go back to the data to determine that.

7. **Discuss Data Request for Johnson Creek and MGII Flow-Productivity Analysis (15 min) – Objectives 2-4**
   *Intent: Discuss data request and need for preparation of the Biological Assessment*
   - Discuss content and need of the data request

Slide 124-126 Leonard

**Sandow**: What do you need from the Big Creek project to inform this project? Take a look at what we sent for Johnson Creek and let me know if you still need the Big Creek information.
**Leonard**: It's is the same kind of data need – the underlying data, calculations, assumptions, etc.
Sandow: You need the next step for Big Creek. The steelhead info makes sense to provide, plus productivity reduction info.
**Nalder**: AECOM has worked on this and it might be worth holding off until that TM is ready on Flow-Productivity Analysis.
**Leonard**: We want to proceed right away and clear the deck on problems.
**Nalder**: Let me see where AECOM is on the TM and I will send it to you as soon as it is available.

8. **Future Meeting Items Discussion (15 min)**
   *Intent: Identify topics for future meetings*

Review finding and recommendations of options for HFP peak shaving, fish screening, TSF fish salvage.

9. **Review Past and Current Action Items (15 min)**
   *Intent: To get status of actions by each group and discuss if any changes needed to each action item*

   *Current action items:*

- Send out addendum to Baseline Report Aquatic Resources Baseline Report
- USFWS to provide recommendations on salvage plan for TSF.
- Clayton will check on timing of flow-productivity analysis TM from AWCOM and let MGII and NOAA know when it can be expected.
- Clayton will check on PHASIM data and underlying spreadsheet and send to MGII and BC.
- Johnna to send MGII the same info on steelhead as sent to the USFS, and check for any other required data.

Next meeting January 15, 2020
The February meeting is tentatively scheduled for Feb 6th.